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EXAMINER	
SHAW, PELING ANDY	

ART UNIT	PAPER NUMBER
2144	

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/775,349	YEMINI ET AL.	
	Examiner	Art Unit	
	Peling A. Shaw	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

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DETAILED ACTION

1. Amendment received on 06/08/2006 has been entered into record. Claims 1-3, 5-8, 11 and 16-18 are amended. Claim 21 is new. Claims 1-21 are currently pending.

Priority

2. This application is claims priority to Provisional Application Serial No. 60,179,884, filed 02 February 2000, and to Provisional Application Serial No. 60/216,403, filed 06 July 2000. The filing date is 02/01/2001.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Jensen et al. (US 5870564 A), hereinafter referred as Jensen.

a. Regarding claim 1, Jensen disclosed a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each representing a path comprising one or more Links or other Nodes (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and

underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between said first Node and said second Node being determined from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology); and (d) said first Node stores the set of one or more coordinate labels (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e).

b. Regarding claim 2, Jensen disclosed the network of claim 1 wherein said first Node reroutes any data intended for said second Node in the event said second Node moves or fails (column 1, line 59-column 2, line 19: router may go down, need to route message in a way to accommodate; column 8, lines 18-28: optimal dynamic path).

c. Regarding claim 16, Jensen disclosed a method for determining a path from a source Node to a destination Node in a network comprising a plurality of Nodes interconnected by Links, said Nodes including a first Node, and a plurality of second Nodes, said second Nodes including said source Node and said destination Node, said method comprising (abstract; column 17, lines 27-38; column 22, lines 50-60): (a) assigning to each of said second Nodes one or more coordinate labels, each coordinate label representing a path through said network from one of said plurality of second Nodes to which it is assigned to said first Node (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) determining a path from said source Node to said destination Node by combining one coordinate label of said source Node and one coordinate label of said destination Node (column 17, lines 27-38; column 22, lines 50-60); and (c) at one of said plurality of second Nodes, storing one or more coordinate labels of a another said plurality of second Nodes that is

adjacent to said one of said plurality of second Nodes (column 13, lines 1-8; column 14, lines 13-21: router).

d. Regarding claim 17, Jensen disclosed the method of claim 16 further comprising, at said one of said plurality of second Nodes, rerouting data intended for said another of said plurality of second Nodes in the event that one or more links and/or Nodes between said one of said plurality of second Nodes and said another said plurality of second nodes prevents communication between said one of said plurality of second Nodes and said another plurality of second nodes (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 13, lines 1-8; column 14, lines 13-21: router).

e. Regarding claim 18, Jensen disclosed a Node for use in a network, said network comprising a plurality of Nodes connected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) said Node for use in said network has one or more coordinate labels assign to said node, each coordinate label representing a path from said Node to a particular other Node of said network that includes at least a third Node between said first Node and said second Node, each of

said coordinate labels being unique to said Node (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); and (b) said Node stores one or more coordinate labels corresponding to an adjacent Node (column 13, lines 1-8; column 14, lines 13-21: router).

f. Regarding claim 19, Jensen disclosed the Node of claim 18 wherein said Node reroutes any data intended for said adjacent Node in the event said adjacent Node is moved to a different location (column 1, line 59-column 2, line 19: router may go down, need to route message in a way to accommodate; column 8, lines 18-28: optimal dynamic path).

g. Regarding claim 20, Jensen disclosed the Node of claim 18 wherein said Node reroutes any data intended for said adjacent Node in the event said adjacent Node is unable to receive said packet (column 1, line 59-column 2, line 19: router may go down, need to route message in a way to accommodate; column 8, lines 18-28: optimal dynamic path).

h. Regarding claim 21, Jensen disclosed the network of claim 1 wherein said first Node reroutes any data intended for said second Node in the event said that one or more Links and/or Nodes between said first Node and said second Node prevents communication between said first Node and said second Node (column 1, line 59-

column 2, line 19: router may go down, need to route message in a way to accommodate; column 8, lines 18-28: optimal dynamic path).

Jensen disclosed all limitations of claims 1-2 and 16-21. Claims 1-2 and 16-21 are rejected under 35 U.S.C. 102(b).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-7 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (US 5870564 A), hereinafter referred as Jensen, in view of Denman et al. (US 6490451 B1), hereinafter referred as Denman.

a. Jensen shows (claim 3) a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each representing a path comprising one or more Links or other Nodes (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a

potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between said first Node and said second Node being determined from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology). Jensen does not show (claim 3) at least one of said plurality of Nodes is automatically replicated to create at least one mirror Node.

b. Denman shows (claim 3) at least one of said plurality of Nodes is automatically replicated to create at least one mirror Node (column 8, lines 2-10) in an analogous art for the purpose of providing packet-switched telephony.

c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Jensen's functions of dynamically providing a path

through a network of nodes or granules with Denman's functions of replicating node services.

d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to extend dynamic path provision through networks per Jensen's teaching to service replication per Denman's teaching for scalability, reliability, survivability and minimizing backhaul of bearer and signaling data across packet-switched network per Denman (column 8, lines 2-4).

e. Regarding claims 4 and 5, Denman shows where said at least one mirror Node is mobile and where said at least one of said plurality of Nodes that is automatically replicated is mobile (Fig. 2; column 8, lines 2-10).

f. Regarding claim 6, Denman shows where said at least one of said plurality of Nodes that is automatically replicated is a part of the World Wide Web (column 5, lines 23-45).

g. Claim 7 is of the same scope as claim 3. It is rejected for the same reasons as for claim 3.

h. Regarding claim 11, Jensen shows a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each representing a path comprising one or more Links or other Nodes (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column

18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between said first Node and said second Node being determined from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology). Denman shows said first Node is a mobile Node (Fig. 2; column 8, lines 2-10).

i. Regarding claim 12, Denman shows where said mobile Node is a PDA (column 3, lines 40-67).

j. Regarding claim 13, Denman shows where said mobile Node is a cellular telephone (column 5, lines 3-22).

k. Regarding claim 14, Denman shows where said mobile Node is a laptop computer (Fig. 2; column 8, lines 2-10).

Together Jensen and Denman disclosed all limitations of claims 3-7 and 11-14. Claims 3-7 and 11-14 are rejected under 35 U.S.C. 103(a).

5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (US 5870564 A), hereinafter referred as Jensen, in view of Heddaya et al. (US 6622157 B1), hereinafter referred as Heddaya.

a. Jensen shows (claim 8) a network comprising a plurality of Nodes interconnected by Links (Fig. 2, items 140, 142 and 144: connectors; column 6, lines 38-44: communication links, edges, connectors; column 14, line 62-column 15, line 2: connectors), wherein: (a) each Node is assigned a set of one or more coordinate labels, each representing a path comprising one or more Links or other Nodes (abstract; column 6, line 65-column 7, line 8: mathematical nodes, edges in Cartesian grid; column 7, lines 52-63; column 8, lines 9-13 and 42-46: potential paths; column 18, lines 19-34: On the other hand, the granule 176b along with its edge 178b and underlying or previous granule 172a remain in consideration for inclusion in a potential path, by virtue of the favorable potential edges 182c, 182d, and 182e); (b) each coordinate label is unique to the Node to which it is assigned (column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology; column 7, lines 52-63: determining a near-optimal path limits the potential paths, evaluates currently acceptable potential path segments or edges); (c) a path between a first Node and a second Node that includes at least a third Node between

said first Node and said second Node being determined from one of said coordinate labels assigned to said first Node and one of said coordinate labels assigned to said second Node (column 4, lines 25-44: determining an improved path, evaluate a path segment by assessing the benefit of a net path including the path segment and a potential future path segment depending on the path segment, where a path segment is an edge between adjacent granules in a network, and wherein all costs, distances, measures, metrics, capacities, and the like, along a path between the adjacent granules are associated with the edge there between; column 6, line 65-column 7, line 17: mathematical nodes, edges in Cartesian grid, distance parameter, topology). Jensen does not show (claim 8) automatically creates at least one cache and redirects a data request to said at least one cache.

b. Heddaya shows (claim 8) automatically creates at least one cache and redirects a data request to said at least one cache (column 8, lines 5-18 and 33-53) in an analogous art for the purpose of extending network services using mobile agents.

c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Jensen's functions of dynamically providing a path through a network of nodes or granules with Heddaya's functions of local cache.

d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to extend dynamic path provision through networks per Jensen's teaching to using multiple nodes to fulfill service requests per Heddaya's teaching (column 3, lines 44-64).

e. Regarding claims 9 and 10, Heddaya shows where said at least one cache is mobile and where said at least one cache contains a load from a mobile Node (column 8, lines 5-18 and 33-53).

Together Jensen and Heddaya disclosed all limitations of claims 8-10. Claims 8-10 are rejected under 35 U.S.C. 103(a).

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (US 5870564 A), hereinafter referred as Jensen, and Denman et al. (US 6490451 B1), hereinafter referred as Denman, and further in view of Chennakeshu et al. (US 6542758 B1), hereinafter referred as Chennakeshu.

a. Jensen and Denman show claim 11 as above. Jensen and Denman do not show (claim 15) where said mobile Node is a router located on a vehicle.

b. Chennakeshu shows (claim 15) where said mobile Node is a router located on a vehicle (Fig. 11; column 7, lines 39-47) in an analogous art for the purpose of distributed radio telephone for use in a vehicle.

c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Jensen's functions of dynamically providing a path through a network of nodes or granules with Chennakeshu's functions of using a radio phone in a vehicle.

d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to extend dynamic path provision through networks per Jensen's teaching to service replication per Denman's teaching for scalability, reliability, survivability and minimizing backhaul of bearer and signaling data across

packet-switched network per Denman (column 8, lines 2-4) and to a vehicle based network per Chennakeshu's teaching (column 7, lines 39-47).

Together Jensen, Denman and Chennakeshu disclosed all limitations of claim 15. Claim 15 is rejected under 35 U.S.C. 103(a).

Response to Arguments

7. Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

a. Applicant's arguments and amendments filed on 06/08/2006 have been carefully considered but they are not deemed fully persuasive. Applicant has amended claim language substantially. Examiner has reviewed the applied prior arts in current and related applications. The above claim rejections reflect the updated references cites from the identified prior arts against amended claim language.

b. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior arts. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see item a in section 3, items a and h in section 4, and item a in section 5). Applicant is advised to amend the claim language to include from the original specification and claim language specific features that would distinguish applicant's invention over the cited prior arts above in the rejection sections and the Remarks section below.

Remarks

8. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

a. Bosack (US 5088032 A) Method and apparatus for routing communications among computer

b. Beshai et al. (US 6667956 B2) Multi-class network

c. McCanne (US 6785704 B1) Content distribution system for operation over an internetwork including content peering arrangements

d. Oltman et al. (US 6785226 B1) System and method for data routing over a network

e. Aggarwal et al. (US 6717921 B1) Method for configuring a shared tree for routing traffic in a multicast conference

f. Yamazaki (US 5655134 A) Network structure storing and retrieval method for a data processor

g. Ogier et al. (US 20020012320 A1) Mobile ad hoc extensions for the internet

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the statu9s of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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